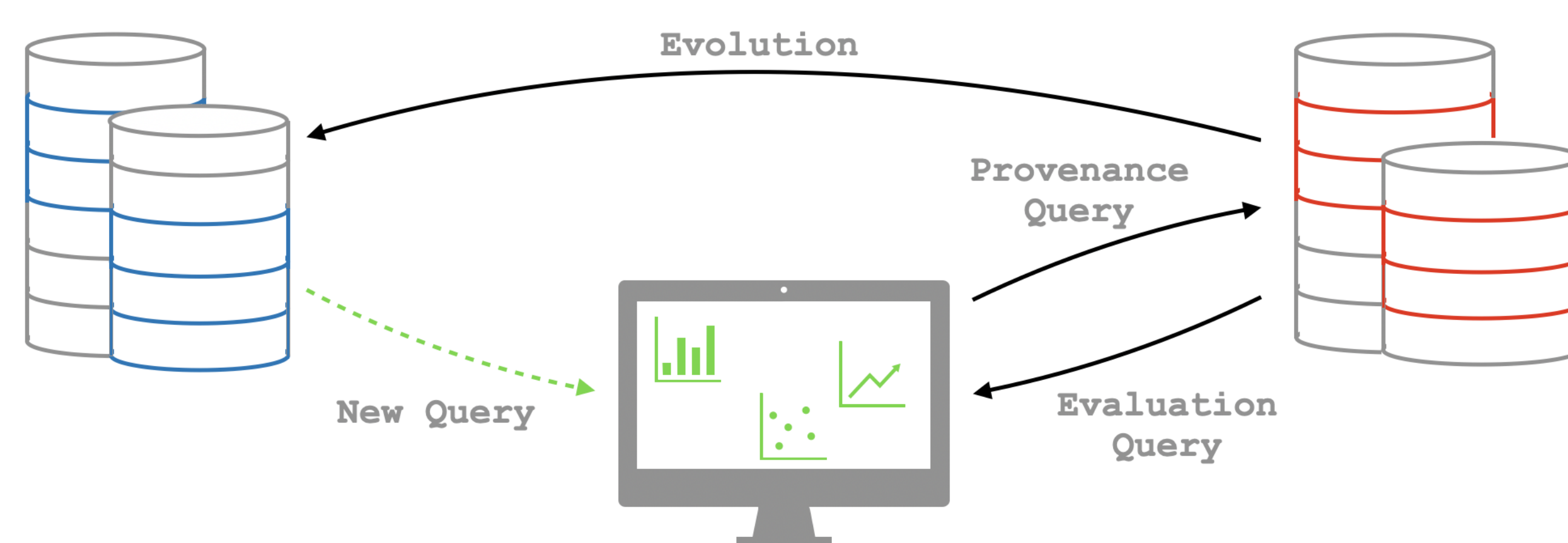


Schema Evolution and Reproducibility of Long-term Hydrographic Data Sets at the IOW

Motivation

Unification of Evaluation, Provenance and Evolution:



Schema Evolution at IOW

Specification of Schema Changes:

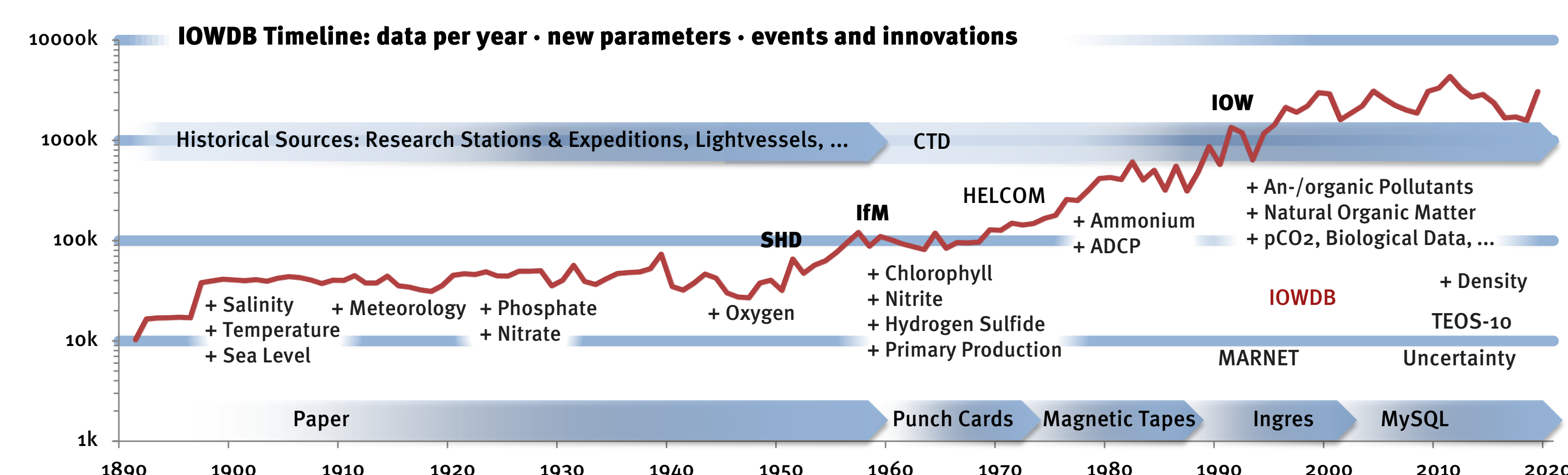
- adding and deleting attributes
- adding and deleting primary keys
- renaming attributes
- creating relations
- adding and deleting foreign keys
- merging and splitting attributes

Detected Schema Changes:

	basic SMOs		extended version	
	# changes	percentage share	# changes	percentage share
CREATE Table	1	1.6%	1	2.3%
ADD Column	45	72.6%	35	79.5%
DROP Column	15	24.2%	0	0%
RENAME Column	1	1.6%	1	2.3%
MERGE Column			4	9.2%
SPLIT Column			3	6.8%

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Data increase at IOW:



SPLIT Column:

```
SPLIT Column a IN R TO d USING func1, e USING func2
ADD Column d AS func1(a) INTO R;
ADD Column e AS func2(a) INTO R;
DROP Column a FROM R;
```

Example:

```
ADD Column StartDate AS func1(Date) INTO Cruises;
ADD Column EndDate AS func2(Date) INTO Cruises;
DROP Column Date FROM Cruises.
```

```
func1 := SUBSTRING(Date,1,10),
func2 := SUBSTRING(Date,12,10).
```

